SECTION IX: RELEASES FROM SOLID WASTE UNITS AND CORRECTIVE ACTION

RCRA Part B Permit Renewal Application
RCRA Permit No. HW-50227
Conroe, Texas

APPENDIX IX-3

EVIDENCE OF RELEASE

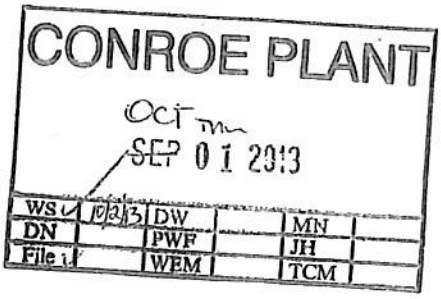
COPY OF POST-RESPONSE ACTION CARE REPORT

ENV CR.20.05.B

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 18, 2013



Mr. Walter Stamm
Plant Manager
Huntsman Petrochemical LLC
5451 Jefferson Chemical Road
Conroe, TX 77301

Re: Approval of Post-Response Action Care Report (PRACR) dated August 23, 2013
Huntsman Petrochemical Conroe Plant, T-E-55 Area
TCEQ SWR No. 30094; Customer No. CN603603093; Regulated Entity No. RN100219740

Dear Mr. Stamm:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above-referenced PRACR. The PRACR was submitted in accordance with the schedule in the Response Action Plan (RAP) previously approved on July 25, 2002. Based on our review, the TCEQ approves the PRACR, which fulfills the requirements of 30 Texas Administrative Code (TAC) §350.96. Please continue with the post-response action care activities, and submit future PRACRs in accordance with the applicable submittal schedule.

Please be aware that it is the continuing obligation of persons associated with a site to ensure that municipal hazardous waste and industrial solid waste are managed in a manner which does not cause the discharge or imminent threat of discharge of waste into or adjacent to waters in the state, a nuisance, or the endangerment of the public health and welfare as required by 30 TAC §335.4. If the actual response action fails to comply with these requirements, please take any necessary and authorized action to correct such conditions. If a substantial change in circumstance occurs please comply with the requirements of 30 TAC §350.35. A TCEQ field inspector may conduct an inspection of your site to determine compliance with the cleanup requirements.

Questions concerning this letter should be directed to me at (512) 239-2360. When responding by mail, please submit an original and one copy of all correspondence and reports to the Remediation Division at Mail Code MC-127, and an additional copy to the Region Office.

Sincerely,

Stephanie Kirschner, AICP, Project Manager
VCP-CA Section
Remediation Division

SDK/mdh

cc: Jason Ybarra, Waste Section Manager, TCEQ Region 12 Office, Houston

HUNTSMAN

Enriching lives through innovation

VIA FEDEX

7965 3613 6232
7965 3615 4014
7965 3617 3708
7965 3622 8958
7966 2409 2417

August 23, 2013

Texas Commission on Environmental Quality
IHW Corrective Action Program (MC-127)
Remediation Division
12100 Park 35 Circle, Building D
Austin, Texas 78753

RE: Post-Response Action Care Report
T-E-55 Area Site Investigation
Huntsman Petrochemical LLC, Conroe Plant
TCEQ SWR No. 30094
CN 603603093, RN 100219740

Dear Corrective Action Team:

Enclosed is the annual Post-Response Action Care Report (PRACR) for the T-E-55 area site investigation. The post-response action care obligation consists of periodic visual inspections for surfaced medium distillate petroleum tars and removal of contaminated soils if found.

As requested, the original and one copy have been submitted to the corrective action section, with an additional copy submitted to the Region 12 office in Houston.

If you have any questions or comments on these submittals, please contact Richard Hare at (936) 760-6287.

Sincerely,

Walter R. Stamm
Plant Manager

Enclosures

cc: Ms. Ashley K. Wadick, Regional Director, TCEQ Region 12, Houston, TX 77023-1452
Mr. Gary Jacobson, Chevron Environmental Management Company, Bellaire, TX
Mr. Lon Tullos, Huntsman
File: ENV.CR.20.05.B

ATTACHMENT A
POST RESPONSE ACTION CARE REPORT

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Post-Response Action Care Report (PRACR)

Cover Page

Submittal date: 8/23/2013 Regulatory ID No.: SWR # 30094 TCEQ Region No.: 1 2

TCEQ Program (check one)

- [X] Corrective Action (Mail Code 127)
- [ ] Voluntary Cleanup Program (Mail Code 221)
- [ ] Petroleum Storage Tank Program (Mail Code 137)
- [ ] Superfund PRP Lead (Mail Code 143)
- [ ] Municipal Solid Waste Permits (Mail Code 124)

On-Site Property Information

On-Site Property Name: Huntsman Petrochemical LLC – Conroe, Texas Facility (Tank T-E-55 Area)

Physical Address:

Street no. 5451 Pre dir: Street name Jefferson Chemical Street type: Rd Post dir:

City: Conroe County: Montgomery County Code: 170 Zip: 77301

Nearest street intersection or location description: Jefferson Chemical Road and FM 1485

Latitude: Degrees, Minutes, Seconds OR Decimal Degrees (circle one) North 30° 18' 56"

Longitude: Degrees, Minutes, Seconds OR Decimal Degrees (circle one) West 95° 23' 5"

Off-Site Affected Property Information

Off-Site Affected Property Name:

Physical Address:

Street no. Pre dir: Street name: Street type: Post dir:

City: County: County Code: Zip:

[X] Check if no off-site properties affected

Contact Person Information and Acknowledgement

Person (or company) Name: Huntsman Petrochemical LLC

Contact Person: Walter R. Stamm Title: Plant Manager

Mailing Address: 5451 Jefferson Chemical Rd.

City: Conroe State: TX Zip: 77301 E-mail address: Walter_Stamm@Huntsman.com

Phone: 936-760-6226 Fax: 936-760-6280

By my signature below, I acknowledge the requirement of 30 TAC §350.2(a) that no person shall submit information to the executive director or to parties who are required to be provided information under this chapter which they know or reasonably should have known to be false or intentionally misleading, or fail to submit available information which is critical to the understanding of the matter at hand or to the basis of critical decisions which reasonably would have been influenced by that information. Violation of this rule may subject a person to the imposition of civil, criminal, or administrative penalties.

Signature of Person W. R. A Name, print: Walter R. Stamm Date: 8/23/13

PRACR Executive Summary	ID No: SWR # 30094
	Report Date: 8/23/2012

Affected Property Name/Number: Tank T-E-55 Area

Date of RAP approval: July 25, 2002
Date of RACR approval: Not Applicable
Length of approved PRAC period (default 30 yrs.): 30 Years

Check if this is the final report ___
If this is the final report, provide documentation in Worksheet 4.0 that the applicable provisions of §350.33(i) have been met.

This reporting period: Start date: August 2012 End date: July 2013

On-site land use for basis of RACR approval ___ Residential X Commercial/industrial
Current on-site land use classification: ___ Residential X Commercial/industrial

During this reporting period, have there been any unexpected events or new conditions at the affected property that required an additional response action? ___ Yes X No

If yes, provide a brief explanation:

If physical control inspection occurred during this reporting period, what is the status of the physical control?

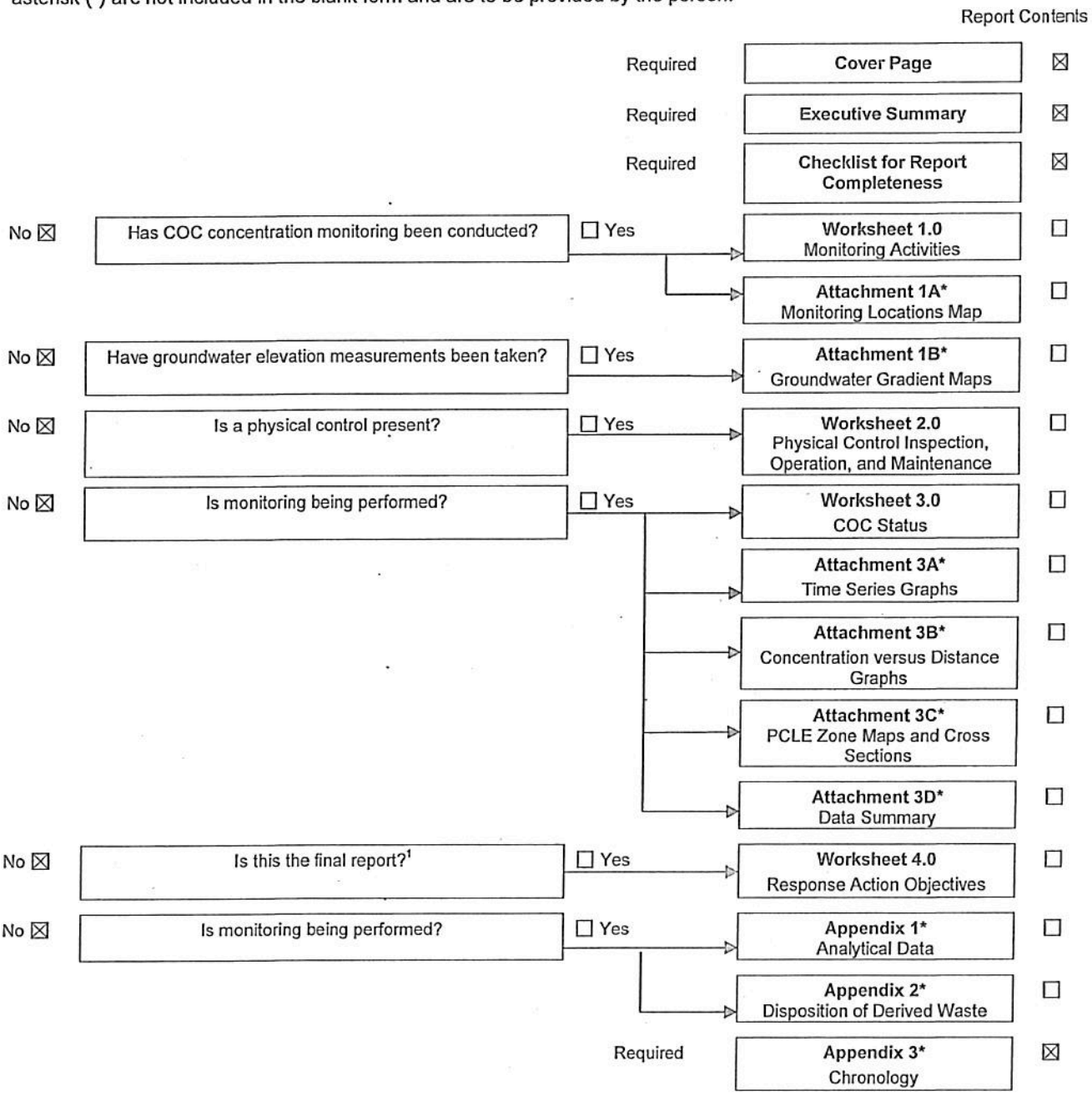
Have any changes occurred in the person's status during this reporting period to warrant changes in the financial assurance for this affected property? (For example, a change in "small business" status as defined in §350.33(n)(2).) ___ Yes X No

If yes, describe the changes that occurred and the changes in financial assurance that have been or will be taken.

Checklist for Report Completeness	ID No. SWR # 30094
	Report Date: 8/23/2012

Checklist for Report Completeness

Use this checklist to determine the portions of the form that must be submitted for this report. Answer all questions by checking Yes or No. If the answer is Yes include that portion of the report. If the answer is No, do not complete or submit that portion of the report. All form contents that are marked "Required" must be submitted. Form contents marked with an asterisk (*) are not included in the blank form and are to be provided by the person.



[1] See §350.33(i) to see if conditions are met to justify termination of post-response action care.

ATTACHMENT B
DISPOSITION OF DERIVED WASTE

CONTAMINATED SOLIDS WASTE DISPOSED IN OFFSITE LANDFILL

DATE	QTY (LBS)	TCEQ WASTE CODE	TSDF (Receiver)
12/16/2012	16,000	01003011	GULFWEST
TOTAL	16,000		

These are all contaminated solid loads transferred during period when contamination of medium distillate petroleum tars were removed.
Approximately 3 lbs. of the total shipments listed above were medium distillate petroleum tars.

ATTACHMENT C
CHRONOLOGY OF POST CLOSURE CARE ACTIVITIES

POST RESPONSE ACTION CARE REPORT
TANK T-E-55 AREA
REPORTING PERIOD AUGUST 2012 THROUGH JULY 2013
HUNTSMAN PETROCHEMICAL LLC
CONROE, TEXAS

The following is a summary of events associated with the post response action care obligations for contaminated soil in the area of tank T-E-55.

August 2012 through July 2013

Huntsman performed monthly visual inspections of the soil surrounding T-E-55 as shown in the table below. When medium distillate petroleum tars were observed, the material was physically removed and transferred to a non-hazardous waste bin. The waste in each bin was disposed in a class 1 landfill. Huntsman removed and properly disposed of approximately 3 pounds of material during this reporting period.

2012-2013 T-E-55 Site Monthly Inspection Report

Month	Inspection Date	Inspection By	Contamination Yes/No	Work Request Number	Comments
August	8/8/2012	D. Thomas	Yes	31023977	Small amount of material on the ground east of tank TE55. WR entered to clean up material (< 1 lb) and place in amine contaminated bin.
September	9/6/2012	D. Thomas	Yes		Small amount of material on the ground east of tank TE55. WR entered to clean up material (< 1 lb) and place in amine contaminated bin.
October	10/5/2012	D. Thomas	Yes	31026737	Small amount of material on the ground northeast of tank TE55. WR entered to clean up material (< 1 lb) and place in amine contaminated bin.
November	11/26/2012	D. Thomas	No		
December	12/20/2013	D. Thomas	No		
January	1/21/2013	D. Thomas	No		
February	2/22/2013	D. Thomas	No		
March	3/22/2013	D. Thomas	No		
April	4/15/2013	D. Thomas	No		
May	5/14/2013	R. Hare	No		
June	6/11/2013	R. Hare	No		
July	7/30/2013	R. Hare	No		

HZ/RCRA/TE

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: ____Huntsman Conroe Facility_____
Facility Address: ____5451 Jefferson Chemical Road, Conroe, Texas 77301_____
Facility EPA ID #: _____ TXD008075853 ✓_____
TCEQ Solid Waste Registration ID #: __30094_____

1. Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

   __X___ If yes - check here and continue with #2 below.

   _____ If no - re-evaluate existing data, or

   _____ if data are not available, skip to #8 and enter"IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

2. Is **groundwater** known or reasonably suspected to be **"contaminated"**[1] above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

_____ If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

__X__ If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):
there is no known contaminated groundwater at this site

Footnotes:

[1]"Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"[2] as defined by the monitoring locations designated at the time of this determination)?

_____ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"[2]).

_____ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"[2]) - skip to #8 and enter "NO" status code, after providing an explanation.

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):_____

[2] "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

4. Does "contaminated" groundwater **discharge** into **surface water** bodies?

_____ If yes - continue after identifying potentially affected surface water bodies.

_____ If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):_____

5. Is the **discharge** of "contaminated" groundwater into surface water likely to be **"insignificant"** (i.e., the maximum concentration[3] of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

_____ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration[3] of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

_____ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration[3] of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations[3] greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s):_____

[3] As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

6. Can the **discharge** of "contaminated" groundwater into surface water be shown to be "**currently acceptable**" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented[4])?

_____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR
2) providing or referencing an interim-assessment,[5] appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

_____ If no - (the discharge of "contaminated" groundwater can not be shown to be "**currently acceptable**") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

_____ If unknown - skip to 8 and enter "IN" status code.

Rationale and Reference(s):_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

[4] Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

[5] The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

_____ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

_____ If no - enter "NO" status code in #8.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s):_____

8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

__X__ YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the ____Huntsman Conroe Facility_____ facility, EPA ID # ___TXD008075853____, located at __5451 Jefferson Chemical Road, Conroe, Texas 77301_. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

_____ NO - Unacceptable migration of contaminated groundwater is observed or expected.

_____ IN - More information is needed to make a determination.

Completed by (signature) Kititke Cook Date 9/29/2009
(print) Kititke Cook
(title) Project Manager

Supervisor (signature) Jason Wang Date 9/29/09
(print) Jason Wang
(title) Team Leader
Texas Commission on Environmental Quality

Locations where References may be found:

TCEQ Central Records, Austin, TX

Contact telephone and e-mail numbers:

Project Manager listed above
(512) 239-2200
KiCook@tceq.state.tx.us

Final Note: The purpose of the Migration of Contaminated Groundwater EI is to verify that the groundwater plume is stable. A "YE" determination does not constitute a screening tool to end the corrective action process. The "YE" determination may be changed at any time as new information becomes available.

SECTION IX: RELEASES FROM SOLID WASTE MANAGEMENT UNITS AND CORRECTIVE ACTION

RCRA Part B Permit Renewal Application
Hazardous Waste Permit No. HW-50227
Conroe, Texas

TABLE OF CONTENTS FOR SUPPLEMENTAL TEXT

IX. RELEASES FROM SOLID WASTE MANAGEMENT UNITS AND CORRECTIVE ACTION

The Warren Petroleum Corporation began initial petrochemical production at this facility in 1954. The facility was idle during 1959. The Jefferson Chemical Company operated the facility from 1960 until 1974. The Jefferson Chemical Company was originally a joint venture of Texaco, Inc. and American Cyanamid Company. From 1974 until 1980 the facility was operated by the Jefferson Chemical Company Inc. which was a wholly owned subsidiary of Texaco, Inc. The Texaco Chemical Company, a division of Texaco Inc. operated the plant from 1980 until its purchase by Huntsman Petrochemical Corporation (Huntsman) in April 1994.

As part of the hazardous waste permitting process in 1987 through 1988, the Texas Water Commission (TWC) performed a preliminary review and visual site inspection of solid waste management units (SWMUs) located at the Conroe facility. The information presented herein provides a review of the SWMUs evaluated in 1987 and the SWMUs that have been added to the facility since that time. A site map and a map that illustrate the locations of the SWMUs are included in Appendix IX-1.

Information from the facility's Notice of Registration (NOR), which contains a list of the waste streams managed at the facility and a list of the facility's SWMUs, was used to complete the Preliminary Review Checklists. Tank T-F-9 and the R-F-70 incinerator manage waste streams that may contain the following 40 CFR 261 Appendix VIII constituents: acrylonitrile, 1,4-dioxane, ethylene glycol monoethyl ether, ethylene oxide, formaldehyde, isobutanol, nickel, n-propylamine, and phenol.

On June 17, 1988, a letter and enclosures that comprise the RCRA Facility Assessment (RFA) were sent to the Conroe facility by the U.S. EPA under an agreement with the State of Texas and the TWC. The cover letter to this RFA indicated that no further action was required at the SWMUs that had been identified. A copy of the letter is included as Appendix IX-2.

In the time period since the 1988 RFA was prepared, Huntsman added SWMUs to their Notice of Registration (NOR). These new areas were the subject of a preliminary review performed by Huntsman as part of the permit renewal process in 2002. Huntsman identified nine Areas of Concern (AOC) during the preliminary review phase. The AOC are units or other areas that are not on the NOR. Huntsman also performed a review of the SWMUs addressed by the TWC in 1988 to determine whether conditions have changed since that time, i.e., inactive or closed. Preliminary Review Unit Checklists for all of the SWMUs and the AOCs are included in the Part B application forms.

During the preliminary review process, Huntsman identified two AOCs that have released to the environment, AOC-8 (Buried Drum Trench) and AOC-9 (Tank T-E-55 Tank Bottom Pit). Appendix IX-3 includes a copy of the report on the investigation and remedial activities associated with AOC-8. It appears that this area does not require further action. AOC-9 is undergoing remediation in accordance with the requirements of 30 TAC 350, Texas Risk Reduction Program, therefore a RCRA Facility Investigation does not appear to be required.

Appendix IX-4 contains information regarding pollutant dispersal pathways. This information indicates the media and direction of movement that pollutants could follow should they be released to the environment.

In the early 1990's, the former facility owner, Texaco Chemical Corporation, performed groundwater monitoring to determine whether historical facility operations affected the groundwater beneath the facility. The company performed this action as a due diligence activity to gain information on whether plant operations had affected the groundwater. Appendix IX-5 presents a report from 1998 that summarizes groundwater data for a period of seven years. It should be noted that in 1994, two semi-volatile compounds (2,6-Dinitrotoluene and 2,4-Dinitrotoluene) were detected in the groundwater. These two constituents have not been managed at this facility and were not detected in the subsequent monitoring event. The report also identifies several volatile organic compounds that were detected during various sampling events. The detected concentrations of benzene, toluene, and xylene are all below the residential groundwater protective concentration limit found in 30 TAC 350, Texas Risk Reduction Program. Two chlorinated solvents (1,2-Dichloroethane and 1,2-Dichloropropane) were also detected. These constituents are not known to have been managed at this facility. A review of the facility's records indicates that chlorinated solvents have not been used at the facility. Therefore, the source of the detected volatile organic constituents is unknown.

TEXAS WATER COMMISSION

June 7, 1988

(P+6)

Mr. Sam Becker, P.E., Chief
Hazardous Waste Compliance Branch
U.S. Environmental Protection Agency
Region VI - 6H-C
1445 Ross Avenue
Dallas, Texas 75202-2733

Re: Transmittal of an RCRA Facility Assessment
Texaco Chemical Company
Solid Waste Registration No. 30094
EPA I.D. No. TXD 008076853

Dear Mr. Becker:

Pursuant to the agreement made between the State of Texas and the U.S. Environmental Protection Agency (EPA) this letter plus enclosures constitute the RCRA Facility Assessment (RFA) for Texaco Chemical Company. We understand that EPA has committed to a 30-day review and comment period for RFA documents so that the Texas Water Commission can proceed with permitting.

The Preliminary Review (PR), copy attached, presents information about all units managing waste materials as well as information about waste materials managed. The PR is merged with the attached Visual Site Inspection (VSI) report so that the corresponding pages for each unit are together. As a result of the Visual Site Inspection, the units described on the PR were classified in one of the following two categories:

RCRA Units Requiring A Permit

-- Incinerator (NOR 03)
-- Storage Tank TF2
-- Storage Tank TF4

Solid Waste Management Units

-- Incinerator (NOR 01)
-- Process Wastewater Sump
-- Waste Polyol Sump
-- Disposal Pits
-- Landfill (NOR 02)
-- Tank (NOR 07)
-- Portable Storage Bins (NOR 05)
-- Plant Wastewater Storage Tank TF-5
-- Container Storage Area (NOR 09)
-- Plant Trash Dumpsters

The VSI identified Tanks TF-2 and TF-4 as not having of impervious secondary containment.

The waste polyol sump exhibited manifestations of leakage and spillage and therefore constituted an "area of concern." However, on April 28, 1988 the contaminated soils were gathered and removed from the sump area, and sent to an authorized waste management facility.

At this time, all units on site are of such design and status as to justify recommendation of "no further action."

Questions or comments on the RFA should be directed within 30 days from the date of this letter to Alan P. Church, P.E. at AC 512/463-8559.

Sincerely,

Minor Brooks Hibbs

Minor Brooks Hibbs, Chief
Permits Section
Hazardous and Solid Waste Division

APC:lc
xc: Shirley Workman, EPA Dallas
Bill Van Evers, TWC Southeast Region Office - Deer Park
Mel Remley - Texaco Chemical Company - Conroe, TX

POST RESPONSE ACTION CARE REPORT
TANK T-E-55 AREA
REPORTING PERIOD AUGUST 2012 THROUGH JULY 2013
HUNTSMAN PETROCHEMICAL LLC
CONROE, TEXAS

The following is a summary of events associated with the post response action care obligations for contaminated soil in the area of tank T-E-55.

August 2012 through July 2013

Huntsman performed monthly visual inspections of the soil surrounding T-E-55 as shown in the table below. When medium distillate petroleum tars were observed, the material was physically removed and transferred to a non-hazardous waste bin. The waste in each bin was disposed in a class 1 landfill. Huntsman removed and properly disposed of approximately 3 pounds of material during this reporting period.

2012-2013	T-E-55 Site Monthly Inspection Report				
Month	Inspection Date	Inspection By	Contamination Yes/No	Work Request Number	Comments
August	8/8/2012	D. Thomas	Yes	31023977	Small amount of material on the ground east of tank TE55. WR entered to clean up material (< 1 lb) and place in amine contaminated bin.
September	9/6/2012	D. Thomas	Yes		Small amount of material on the ground east of tank TE55. WR entered to clean up material (< 1 lb) and place in amine contaminated bin.
October	10/5/2012	D. Thomas	Yes	31026737	Small amount of material on the ground northeast of tank TE55. WR entered to clean up material (< 1 lb) and place in amine contaminated bin.
November	11/26/2012	D. Thomas	No		
December	12/20/2013	D. Thomas	No		
January	1/21/2013	D. Thomas	No		
February	2/22/2013	D. Thomas	No		
March	3/22/2013	D. Thomas	No		
April	4/15/2013	D. Thomas	No		
May	5/14/2013	R. Hare	No		
June	6/11/2013	R. Hare	No		
July	7/30/2013	R. Hare	No		

SEMI-ANNUAL GROUNDWATER MONITORING REPORT
CONROE PLANT
MARCH 1998 MONITORING EVENT
HUNTSMAN PETROCHEMICAL CORPORATION
CONROE, TEXAS

Prepared for:

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PROJECT NO. 421755
June 30, 1998

MARCH 1998 GROUNDWATER MONITORING REPORT
HUNTSMAN PETROCHEMICAL CORPORATION CONROE PLANT
CONROE, TEXAS

INTRODUCTION

A semi-annual groundwater sampling event was conducted by IT Corporation (IT) at the Huntsman Petrochemical Corporation Conroe Plant (Huntsman Plant) on March 6, 1998. The Groundwater Monitoring Program at the plant includes the following:

- Collection of water level data.
- Groundwater sampling and chemical analysis of collected samples.
- Wet Chemistry analyses of collected samples.
- Data summaries and report.

The monitoring well network for this sampling event consisted of ten wells: MW-4 to MW-13. Depth to water was measured in all ten wells and chemical analyses were performed on groundwater samples collected from the wells. Figure 1 shows the locations of the monitoring wells.

OBJECTIVE

The groundwater sampling program has been established as a plan for semi-annual sampling and laboratory analysis of groundwater from ten monitoring wells at the Huntsman Plant. The program is designed to address the following objectives: (1) verify that groundwater quality at the site is not being impacted; (2) verify that any impacted groundwater is not migrating onto or off the Huntsman Plant site; and (3) to demonstrate responsible environmental management.

This sampling event is part of the semi-annual program initiated in November 1995. Historic water level data (Table 1) and analytical results (Table 4) for all of the monitoring wells has been gathered and reviewed to assist in creating a sampling plan which would monitor the change in concentration of chemical constituents in the groundwater at the site over time.

FIELD ACTIVITIES

Static water level measurements were collected prior to groundwater sampling on March 6, 1998 and were used to calculate purge volumes. Groundwater samples were collected after three well casing volumes or greater had been purged from the well, or until the groundwater field parameters (temperature, pH, specific conductance, and turbidity) had stabilized, or until the well was purged dry. Purged groundwater was stored in drums placed at each monitoring well to await proper disposal. Groundwater samples were collected from wells MW-4 through MW-13 and submitted for laboratory analysis. Wells were checked for visible damage prior to each water level measurement.

SITE HYDROGEOLOGY

Inorganic wet chemistry analysis of groundwater, elevation data and stratigraphy reinforce the interpretation that multiple water-bearing units are represented in the network of monitoring wells at the plant. Monitoring wells MW-5, MW-6, and MW-9 appear to represent a shallow water-bearing unit (WBU), probably semi-confined, with groundwater flow to the southwest and a gradient of 0.0096 feet/foot. Monitoring wells MW-4, MW-7, MW-8, MW-10, MW-11, MW-12 and MW-13 represent a deep WBU with groundwater flow to the south and a gradient of 0.0035 feet/foot.

ANALYTICAL RESULTS

Groundwater samples were submitted to Southern Petroleum Laboratories (SPL) of Houston, Texas for analysis. Groundwater samples from ten wells were analyzed for total organic carbon (TOC) by EPA Method 415.1, total organic halogens (TOX) by EPA Method 9020 and inorganic wet chemistry analysis by EPA Methods 325.3, 375.4, 6010B, 310.1 and 160.1. Sample holding times were met during this event. Summaries of analytical results are presented in Tables 2 and 3.

TOC concentrations range from 2 milligrams per liter (mg/L) in MW-11 to 110 mg/l in MW-10 with the majority of the wells containing less than 10 mg/l. TOX concentrations range from Not-Detected (ND) in MW-4 and MW-10 to 0.41 mg/l in MW-12.

Review of the analytic data from the past three sampling events indicates increasing TOX concentrations in the deeper WBU, which may indicate recent impact to groundwater near MW-7, MW-8, MW-11, MW-12 and MW-13. A summary of the results of historic groundwater analyses is presented in Table 4.

The Certificates of Analysis (COA), provided in Appendix A, contain details of the methods and procedures, and the laboratory results. Quality Assurance/Quality Control (QA/QC) in the laboratory was accomplished by adherence to standards and methodologies as published in EPA Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Office of Solid Waste and Emergency Response, SW-846. Laboratory Quality Control Documentation QA/QC results are located in Appendix B. Appendix C contains the Chain of Custody (COC). The samples for the Huntsman Plant were analyzed in accordance with SW-846 protocols and in accordance with industry standard QA/QC requirements.

MONITORING WELL INTEGRITY

During the well inspection that preceded sampling, the tops of the PVC risers in several wells were noted to be severely worn (serrated edges). A serrated edge could compromise the casing seal and impair the ability to correctly measure depth to water in the well. Several of the riser pipes were found to be loose and at an angled position within the protective casing. Additionally, hinges on the protective casings of wells MW-4, MW-5, MW-6, and MW-7 were rusted through with the lids held to the protective casing only by the well locks.

RESULTS OF FIELD ACTIVITIES

In addition to the laboratory testing, field parameters were collected during the purging of the monitoring wells. A significant result of the field parameter testing were pH measurements taken while purging MW-13. The three readings recorded and subsequent readings taken thereafter indicated pH levels above 11 standard units. IT will closely monitor MW-13 for pH during the next groundwater monitoring event.

RECOMMENDATIONS

- Install a reinforcement collar on each of the monitoring wells to preserve well seal integrity. During water level gauging events, it is imperative that depth to water be measured from a reliably fixed point to ensure comparability of data to previous gauging events and to correctly relate water levels to other monitoring wells in the network. Additionally, preservation of the existing top of casing will prevent the introduction of undesirable foreign matter into the well.

- Install a stabilizing collar between the riser pipe and the protective casing in wells that exhibited angled or loose casing.

- Repair the protective covers on MW-4, MW-5, MW-6, and MW-7 to replace the rusted hinges.

- Replace monitoring well MW-10 due to a consistent history of excessive sedimentation in the well screen.

- Install shallow water-bearing unit monitoring wells northwest of the plant, south of MW-13, south of MW-5 at the property boundary, in the central area of the plant, and in the northeast area of the plant south of MW-11. These groundwater monitoring wells will assist in determining the relationship between the shallow water-bearing units and the deep water-bearing units. These recommended wells can provide definitive data concerning plume migration off-site.

- Conduct additional sampling and analyses in the second quarter of 1998 to verify the high concentrations of TOX in groundwater in the vicinity of monitor wells MW-7, MW-8, MW-11, MW-12 and MW-13.

TABLES

TABLE 1
HISTORICAL GROUNDWATER ELEVATION DATA
HUNTSMAN CORPORATION
CONROE, TEXAS PLANT

MONITOR WELL	DATE	TOP OF CASING ELEVATION	DEPTH TO WATER	RELATIVE GROUNDWATER ELEVATION
		FT, MSL	FT	FT, MSL
MW-4	23-Jan-92	87.17	42.58	44.59
	5-Jun-92		41.33	45.84
	6-Nov-92		41.84	45.33
	29-Mar-93		41.18	45.99
	9-Jul-93		40.40	46.77
	18-Feb-94		40.83	46.34
	18-Nov-94		41.08	46.09
	19-May-95		40.20	46.97
	18-Dec-95		40.53	46.64
	1-Jul-96		41.39	45.78
	25-Feb-97		42.23	44.94
	14-Aug-97		39.98	47.19
	6-Mar-98		40.21	46.96
MW-5	23-Jan-92	78.51	9.82	68.69
	5-Jun-92		8.13	70.38
	6-Nov-92		10.05	68.46
	29-Mar-93		8.36	70.15
	9-Jul-93		5.20	73.31
	18-Feb-94		9.13	69.38
	18-Nov-94		9.05	69.46
	19-May-95		7.50	71.01
	18-Dec-95		9.75	68.76
	1-Jul-96		10.17	68.34
	25-Feb-97		10.15	68.36
	14-Aug-97		8.16	70.35
	6-Mar-98		7.28	71.23
MW-6	23-Jan-92	82.76	11.70	71.06
	5-Jun-92		10.64	72.12
	6-Nov-92		12.18	70.58
	29-Mar-93		10.48	72.28
	9-Jul-93		9.90	72.86
	18-Feb-94		11.53	71.23
	18-Nov-94		11.20	71.56
	19-May-95		9.91	72.85
	18-Dec-95		11.38	71.38
	1-Jul-96		11.20	71.56
	25-Feb-97		10.77	71.99
	14-Aug-97		9.54	73.22
	6-Mar-98		9.33	73.43

TABLE 1
HISTORICAL GROUNDWATER ELEVATION DATA
HUNTSMAN CORPORATION
CONROE, TEXAS PLANT

MONITOR WELL	DATE	TOP OF CASING ELEVATION	DEPTH TO WATER	RELATIVE GROUNDWATER ELEVATION
		FT, MSL	FT	FT, MSL
MW-7	23-Jan-92	91.02	48.10	42.92
	5-Jun-92		46.59	44.43
	6-Nov-92		47.12	43.90
	29-Mar-93		46.33	44.69
	9-Jul-93		45.50	45.52
	18-Feb-94		45.97	45.05
	18-Nov-94		46.57	44.45
	19-May-95		45.55	45.47
	18-Dec-95		45.97	45.05
	1-Jul-96		46.81	44.21
	25-Feb-97		47.40	43.62
	14-Aug-97		45.72	45.30
	6-Mar-98		45.04	45.98
MW-8	23-Jan-92	70.76	25.34	45.42
	5-Jun-92		23.93	46.83
	6-Nov-92		25.55	45.21
	29-Mar-93		24.77	45.99
	9-Jul-93		24.40	46.36
	18-Feb-94		25.13	45.63
	19-May-95		25.25	45.51
	18-Dec-95		25.78	44.98
	1-Jul-96		27.24	43.52
	25-Feb-97		26.99	43.77
	14-Aug-97		26.48	44.28
	6-Mar-98		24.74	46.02
MW-9	23-Jan-92	74.86	9.11	65.75
	5-Jun-92		8.83	66.03
	6-Nov-92		12.47	62.39
	29-Mar-93		8.58	66.28
	9-Jul-93		9.00	65.86
	18-Feb-94		9.30	65.56
	19-May-95		10.16	64.70
	18-Dec-95		12.20	62.66
	1-Jul-96		12.25	62.61
	25-Feb-97		9.78	65.08
	14-Aug-97		11.18	63.68
	6-Mar-98		8.61	66.25

TABLE 1
HISTORICAL GROUNDWATER ELEVATION DATA
HUNTSMAN CORPORATION
CONROE, TEXAS PLANT

MONITOR WELL	DATE	TOP OF CASING ELEVATION	DEPTH TO WATER	RELATIVE GROUNDWATER ELEVATION
		FT, MSL	FT	FT, MSL
MW-10	23-Jan-92	84.56	41.40	43.16
	5-Jun-92		40.14	44.42
	6-Nov-92		40.87	43.69
	29-Mar-93		40.08	44.48
	9-Jul-93		39.26	45.30
	18-Feb-94		39.93	44.63
	18-Nov-94		40.35	44.21
	19-May-95		39.29	45.27
	18-Dec-95		39.75	44.81
	1-Jul-96		40.64	43.92
	25-Feb-97		41.04	43.52
	14-Aug-97		39.98	44.58
	6-Mar-98		38.86	45.70
MW-11	23-Jan-92	99.80	52.48	47.32
	5-Jun-92		50.72	49.08
	6-Nov-92		51.20	48.60
	29-Mar-93		50.46	49.34
	9-Jul-93		49.70	50.10
	18-Feb-94		50.25	49.55
	19-May-95		49.68	50.12
	18-Dec-95		50.35	49.45
	1-Jul-96		50.97	48.83
	25-Feb-97		51.31	48.49
	14-Aug-97		50.42	49.38
	6-Mar-98		49.02	50.78
MW-12	23-Jan-92	98.73	52.26	46.47
	5-Jun-92		50.63	48.10
	6-Nov-92		51.18	47.55
	29-Mar-93		50.39	48.34
	9-Jul-93		49.60	49.13
	18-Feb-94		50.17	48.56
	19-May-95		49.70	49.03
	18-Dec-95		50.31	48.42
	1-Jul-96		51.05	47.68
	25-Feb-97		51.30	47.43
	14-Aug-97		49.98	48.75
	6-Mar-98		48.96	49.77

TABLE 1
HISTORICAL GROUNDWATER ELEVATION DATA
HUNTSMAN CORPORATION
CONROE, TEXAS PLANT

MONITOR WELL	DATE	TOP OF CASING ELEVATION	DEPTH TO WATER	RELATIVE GROUNDWATER ELEVATION
		FT, MSL	FT	FT, MSL
MW-13	23-Jan-92	92.52	48.24	44.28
	5-Jun-92		46.72	45.80
	6-Nov-92		47.18	45.34
	29-Mar-93		46.40	46.12
	9-Jul-93		45.60	46.92
	18-Feb-94		46.23	46.29
	19-May-95		45.76	46.76
	18-Dec-95		46.27	46.25
	1-Jul-96		47.44	45.08
	25-Feb-97		47.57	44.95
	14-Aug-97		46.32	46.20
	6-Mar-98		44.87	47.65

TABLE 2
TOC and TOX Analytical Data
March 6, 1998
Huntsman Corporation
Conroe Texas Plant

MONITOR WELL (2")	SAMPLE ID (COC)	TOTAL ORGANIC CARBON (TOC) mg/L	TOTAL ORGANIC HALOGENS (TOX) mg/L
MW-4	W-4	4	ND
MW-5	W-2	51	0.05
MW-6	W-3	28	0.12
MW-7	W-6	26	0.35
MW-8	W-10	4	0.30
MW-9	W-1	4	0.09
MW-10	W-5	110	ND
MW-11	W-7	2	0.31
MW-12	W-8	5	0.41
MW-13	W-9	8	0.40
MW-8 Duplicate	W-11	3	0.40
Detection Limits		1 mg/L	0.01 mg/L

TABLE 3

ANALYTICAL GROUNDWATER SUMMARY
HUNTSMAN CORPORATION
CONROE, TEXAS

		ANALYTICAL METHOD/RESULT (mg/L)									
WELL ID	SAMPLE DATE	310.1 Alkalinity	325.3 Chloride	375.4 Sulfate	160.1 TDS	6010A Total Calcium	6010A Total Iron	6010A Potassium	6010A Magnesium	6010A Manganese	6010A Sodium
MW-06	Feb-98	452	1400	26	2,500	327	2.3	ND	86	8.92	480
MW-05	Feb-98	436	1900	22	3,030	405	0.6	ND	95	2.04	676
MW-09	Feb-98	287	1400	53	2,370	277	2.8	ND	67	0.42	499
MW-04	Feb-98	332	800	15	1,660	213	4.3	ND	61	5.72	272
MW-07	Feb-98	167	1100	11	2,180	294	21.5	ND	86	4.09	270
MW-11	Feb-98	231	560	12	1,170	172	3.9	ND	39	0.12	184
MW-12	Feb-98	343	890	16	1,760	260	1.7	ND	58	0.17	243
MW-13	Feb-98	30	800	17	1,360	287	1.4	ND	28	0.08	206
MW-08	Feb-98	299	690	62	1,240	379	3.5	ND	45	0.89	227
MW-08 Duplicate	Feb-98	319	560	71	1,180	360	4.2	ND	40	0.91	208
MW-10	Feb-98	155	1600	7	2,610	486	10	ND	136	5.85	189
Detection Limits		**1 mg\L**	**20 mg\L**	**5 mg\L**	**10 mg\L**	**1 mg\L**	**0.2 mg\L**	**20 mg\L**	**1 mg\L**	**0.05 mg\L**	**5 mg\L**

TABLE 4
HISTORICAL ANALYTICAL GROUNDWATER SUMMARY
HUNTSMAN CORPORATION
CONROE, TEXAS

WELL ID	SAMPLE DATE	ANALYTICAL METHOD/RESULT					
		415.1 TOC	9020 TOX	418.1 TRPH	8240 VOC	8270 SVOC	8020 BTEX
		ppm	ppb	ppm	ppb	ppb	ppb
MW-4	Feb-91	-	-	-	ND	-	-
	Mar-91	-	-	-	ND	-	-
	Jan-92	3	-	-	-	-	-
	Jun-92	2.7	-	-	-	-	-
	Nov-92	4.7	-	-	-	-	-
	Mar-93	2.4	-	-	-	-	-
	Aug-93	4.4	-	-	-	-	ND
	Feb-94	3.5	-	-	ND	ND	-
	Nov-94*	-	-	-	ND	ND	-
	May-95	3	-	-	-	-	-
	Dec-95	4	32	-	-	-	-
	Jul-96	3	82	-	-	-	-
	Feb-97	2	147	-	-	-	-
	Aug-97	5	50	-	-	-	-
	Mar-98	4	ND	-	-	-	-
MW-5	Feb-91	-	-	-	ND	ND	-
	Mar-91	-	-	-	-	-	-
	Jan-92	33	-	-	-	-	-
	Jun-92	37	-	-	-	-	-
	Nov-92	43	-	-	-	-	-
	Mar-93	40	-	-	-	-	-
	Aug-93	41	-	-	-	-	-
	Feb-94	53	-	-	ND	ND	-
	Nov-94*	-	-	-	ND	ND	-
	May-95	56	-	-	-	-	-
	Dec-95	47	138	-	-	-	-
	Jul-96	45	284	-	-	-	-
	Feb-97	46	104	-	-	-	-
	Aug-97	68	80	-	-	-	-
	Mar-98	51	50	-	-	-	-
MW-6	Feb-91	-	-	-	ND	ND	-
	Mar-91	-	-	-	-	-	-
	Jan-92	21	-	-	-	-	-
	Jun-92	23	-	-	-	-	-
	Nov-92	20	-	-	-	-	-
	Mar-93	20	-	-	-	-	-
	Aug-93	20	-	-	-	-	-
	Feb-94	22	-	-	ND	ND	-
	Nov-94*	-	-	-	ND	ND	-
	May-95	23	-	-	-	-	-
	Dec-95	22	69	-	-	-	-
	Jul-96	20	80	<.2	-	-	-
	Feb-97	23	98	-	-	-	-
	Aug-97	27	140	-	-	-	-
	Mar-98	28	120				

TABLE 4
HISTORICAL ANALYTICAL GROUNDWATER SUMMARY
HUNTSMAN CORPORATION
CONROE, TEXAS

WELL ID	SAMPLE DATE	ANALYTICAL METHOD/RESULT					
		415.1 TOC	9020 TOX	418.1 TRPH	8240 VOC	8270 SVOC	8020 BTEX
		ppm	ppb	ppm	ppb	ppb	ppb
MW-7	Feb-91	-	-	-	40(a):12(i):24(j)	ND	-
	Mar-91	-	-	-	11(a):15(i)	ND	-
	Jan-92	16	-	-	-	-	-
	Jun-92	13	-	-	-	-	-
	Nov-92	18	-	-	-	-	-
	Mar-93	17	-	-	-	-	-
	Aug-93	18	-	-	-	-	-
	Feb-94	24	-	-	6.8(a)	25,000(A):11,000(B)	-
	Nov-94*	-	-	-	65(a):7(b)	ND	-
	May-95	28	-	-	88(a):8(b):10(g)	-	-
	Dec-95	23	125	-	-	-	-
	Jul-96	26	134	<.2	-	-	-
	Feb-97	24	84	-	-	-	-
	Aug-97	28	90	-	-	-	-
	Mar-98	26	350				
MW-8	Feb-91	-	-	-	-	-	-
	Mar-91	-	-	-	-	-	-
	Jan-92	2.9	-	-	-	-	-
	Jun-92	1.5	-	-	-	-	-
	Nov-92	2.2	-	-	-	-	-
	Mar-93	1.2	-	-	-	-	-
	Aug-93	2.2	-	-	-	-	-
	Feb-94	1.6	-	-	-	-	-
	Nov-94	-	-	-	-	-	-
	May-95	-	-	-	-	-	-
	Dec-95	2	51	-	-	-	-
	Jul-96	2	99	-	-	-	-
	Feb-97	2	39	-	-	-	-
	Aug-97	2	110	-	-	-	-
	Mar-98	4	300	-	-	-	-
MW-9	Feb-91	-	-	-	-	-	-
	Mar-91	-	-	-	-	-	-
	Jan-92	4.4	-	-	-	-	-
	Jun-92	3.5	-	-	-	-	-
	Nov-92	3	-	-	-	-	-
	Mar-93	3.1	-	-	-	-	-
	Aug-93	3.5	-	-	-	-	-
	Feb-94	2.8	-	-	-	-	-
	Nov-94	-	-	-	-	-	-
	May-95	-	-	-	-	-	-
	Dec-95	2	66	-	-	-	-
	Jul-96	3	82	-	-	-	-
	Feb-97	3	88	-	-	-	-
	Aug-97	5	180				
	Mar-98	4	90	-	-	-	-

TABLE 4
HISTORICAL ANALYTICAL GROUNDWATER SUMMARY
HUNTSMAN CORPORATION
CONROE, TEXAS

WELL ID	SAMPLE DATE	ANALYTICAL METHOD/RESULT					
		415.1 TOC	9020 TOX	418.1 TRPH	8240 VOC	8270 SVOC	8020 BTEX
		ppm	ppb	ppm	ppb	ppb	ppb
MW10	Feb-91	-	-	-	-	-	-
	Mar-91	-	-	-	-	-	-
	Jan-92	65	-	-	-	-	-
	Jun-92	120	-	-	-	-	-
	Nov-92	130	-	-	-	-	-
	Mar-93	130	-	-	-	-	-
	Aug-93	120	-	-	-	-	-
	Feb-94	140	-	-	(b):41(c):8(d):82(e	10(A)	-
	Nov-94*	-	-	-	8(a)	ND	-
	May-95	126	-	-	6(a):8(h):10(i)	-	-
	Dec-95	130	39	-	-	-	-
	Jul-96	109	48	-	-	-	-
	Feb-97	120	63	-	-	-	-
	Aug-97	130	70				
	Mar-98	110	ND	-	-	-	-
MW11	Feb-91	-	-	-	-	-	
	Mar-91	-	-	-	-	-	-
	Jan-92	ND	-	-	-	-	-
	Jun-92	1.9	-	-	-	-	-
	Nov-92	2.2	-	-	-	-	-
	Mar-93	ND	-	-	-	-	-
	Aug-93	1.3	-	-	-	-	-
	Feb-94	ND	-	-	-	-	-
	Nov-94	-	-	-	-	-	-
	May-95	-	-	-	-	-	-
	Dec-95	ND	33	-	-	-	-
	Jul-96	<1	123	<.2	-	-	-
	Feb-97	<1	38	-	-	-	-
	Aug-97	5	20				
	Mar-98	2	310	-	-	-	-
MW12	Feb-91	-	-	-	-	-	-
	Mar-91	-	-	-	-	-	-
	Jan-92	3.4	-	-	-	-	-
	Jun-92	5.1	-	-	-	-	-
	Nov-92	4.4	-	-	-	-	-
	Mar-93	4.5	-	-	-	-	-
	Aug-93	3	-	-	-	-	-
	Feb-94	2.7	-	-	-	-	-
	Nov-94	-	-	-	-	-	-
	May-95	-	-	-	-	-	-
	Dec-95	4	116	-	-	-	-
	Jul-96	5	39	-	-	-	-
	Feb-97	3	128	-	-	-	-
	Aug-97	6	40				
	Mar-98	5	410	-	-	-	-

TABLE 4
HISTORICAL ANALYTICAL GROUNDWATER SUMMARY
HUNTSMAN CORPORATION
CONROE, TEXAS

WELL ID	SAMPLE DATE	ANALYTICAL METHOD/RESULT					
		415.1 TOC	9020 TOX	418.1 TRPH	8240 VOC	8270 SVOC	8020 BTEX
		ppm	ppb	ppm	ppb	ppb	ppb
MW13	Feb-91	-	-	-	-	-	-
	Mar-91	-	-	-	-	-	-
	Jan-92	2.4	-	-	-	-	-
	Jun-92	4.6	-	-	-	-	-
	Nov-92	1.5	-	-	-	-	-
	Mar-93	1.2	-	-	-	-	-
	Aug-93	1.4	-	-	-	-	-
	Feb-94	8.4	-	-	-	-	-
	Nov-94	-	-	-	-	-	-
	May-95	-	-	-	-	-	-
	Dec-95	1	26	-	-	-	-
	Jul-96	2	81	-	-	-	-
	Feb-97	1	14	-	-	-	-
	Aug-97	1	80				
	Mar-98	8	400	-	-	-	-

NOTES

Only constituents at concentrations above the detection level are reported
*Nov.-94 analysis included only the constituents: (a,b,f,A,& B)
ND = Not Detected
- = Not Analyzed

(a) 1,2-dichloroethane
(b) 1,2-dichloropropane
(c) 1-propene
(d) chloro-propene (NOS)
(e) 1-chloropropane
(f) BTEX
(g) chloroethane
(h) carbon disulfide
(i) vinyl chloride
(j) phenyl alcohol

(A) 2,6-dinitrotoluene
(B) 2,4-dinitrotoluene